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ABSTRACT

In this collection of papers, individuals with no prior experience in telecommunications describe their experiences as participants in a major demonstration of telecommunications applied to the needs of persons with developmental disabilities in Vermont. Conducted by the Alternate Media Center of New York University from summer 1979 through September 1980, the demonstration dealt with basic questions about the communication process and how a person begins to use and adopt technology to augment that process. Project participants included the Vermont Association for Retarded Citizens (VARC), the Vermont Surrogate Parent Program (VSPP), the Center for Developmental Disabilities (CDD) of the University of Vermont, United Cerebral Palsy (UCP) of Vermont, and the Vermont Developmental Disabilities Council. Seventeen additional publications from the project are listed. (Author/LLS)

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USER PERSPECTIVES: VERMONTERS TALK ABOUT A TELECOMMUNICATIONS DEMONSTRATION

by
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INTRODUCTION

What do users of new technology have to say about their experiences? The answer is "plenty." Unfortunately, too often they are never heard from. Of course, there are formal evaluations which attempt to filter participant reaction. But typically, participants are not provided an opportunity to give their unfiltered, candid assessment of what took place and what it means from their vantage point. This collection of papers is an attempt to remedy that gap.

From summer 1979 through September 1980 the Alternate Media Center of New York University conducted a major demonstration of telecommunications applied to the needs of persons with developmental disabilities (DD) in Vermont. The design, the technology, the evolution, and related facets of the project are described in other papers (see publication list in the Appendix). This volume is the only one in the series in which individuals with no prior experience in telecommunications describe their experiences as participants in this project.

As a subcontractor on the project, the Institute for the Future has been charged with dissemination and evaluation activities. In a project as unique as this telecommunications demonstration, capturing the essence of what took place is a real challenge. Clearly it is not the technology, though the technology is important to consider. Nor is it the training to use the technology, though that too plays an important role. The essence of the project has to do with the human process of communication and how a person begins to use and adopt technology to augment that process. It has to do with discovery, excitement, and learning--illusive qualities hard to capture in print and ones that rarely show up in usage statistics or in quantitative project results. Yet, it is obvious to those who have worked in various demonstration projects when these qualities are there. It was (and still is) in Vermont.

Why Vermont? The Alternate Media Center conducted a lengthy needs assessment prior to its decision to go to Vermont. The selection criteria and the particular reasons why Vermont was chosen are documented elsewhere. One of the overriding reasons, however, was the commitment of many in the state to improving the conditions of its developmentally disabled population. This commitment was evident to those of us who visited Vermont during the course of the project. The determination of the state DD Council and others working in the field to extend the reach of services seemed a natural ally for the project's goal.

While the hospitality toward the project was obvious from the start, there was also an attitude that can best be described as a New England version of "show me"--particularly with regard to ideas introduced by non-Vermonters. It was apparent from the early months that whatever was tried in Vermont was going to face a very critical audience. The project goal of ensuring that some facet of the project continue after the demonstration ended appeared more difficult to achieve, given this attitude.

The apparent skepticism is misleading, though. The combination of care and commitment to DD people, the willingness to try new approaches, and a healthy skepticism toward technology may account for the genuine sense of "ownership" conveyed in these pages. The approach towards introducing the technology and the technology itself met the test of rural Vermont. Once it did, its chances of being integrated into the DD communication system increased dramatically.

At the time of this writing, it is not clear whether the nonprofit organization that has taken responsibility for the project activities, Vermont Telecommunications, Inc., will be a permanent institution. Whether it survives, the changes in communications and organizational habits begun during the project are likely to be lasting.

This volume contains five perspectives. There are others whose views could be recorded here as well. These five represent different uses and different groups. All of these writers began as novices, and all are now adept and articulate about using telecommunications in their work. This isn't to say they have become salespeople for the technology. In fact, when we asked them to write these papers, we asked for discussion of the failures as well as the successes. We hoped they would tell it like it was--with no embellishments. Only in this way, we felt, would other potential users be able to get an honest assessment of what was important to know before plunging into new ways of communicating.

We are delighted with the results. These articles tell at least as much about what took place and its meaning in the lives of individuals as the project's more formal reports. Ideally, this volume should be read in tandem with other project papers and reports. Together they represent the inside and outside views of what took place during a unique demonstration in communications.

Our thanks go to the authors and to the many others in Vermont who worked with us over the course of the project.

Michael J. Nyhan
July 1981

ADVOCACY AS USUAL--BY TELEPHONE

by

Gail Wickes

When we first got involved in the telecommunications project, we knew three things: (1) parents who were members of the Vermont Association for Retarded Citizens (VARC) and those volunteers who had been trained to be surrogate parents for handicapped children had a great deal of information and useful experience to share with each other; (2) the obstacles to sharing were largely physical--mountains, winter, rural isolation, in short, life in Vermont; (3) and the logical way around these obstacles--the telephone--was expensive and time-consuming in that it required a series of essentially repetitive calls to accomplish what could be done in an hour's meeting.

The telecommunications project coordinators said they could help us with number three. They were willing to design a "bridge," a physical object as well as a concept, that would make it possible for people around the state to participate in a meeting by dialing a telephone number. And they had the money to pick up the telephone bills, at least for one year. In Vermont, that's no small matter. If you live in Burlington, it costs more to call Brattleboro than it does to call Washington, D.C. By enabling us to overcome difficulties we thought were inherent in conducting our business by phone, the telecommunications project coordinators had suddenly made mountains, ice, and isolation seem much less of a problem. That left us to figure out how VARC and the Vermont Surrogate Parent Project (VSPP) could actually work together.

Before getting into the business of agendas and scheduling and who said what to whom, it is important to define the two groups more clearly. VARC is a 30-year-old advocacy organization, made up of more than 2000 consumers, parents, professionals, and other interested citizens. We don't provide any direct services; we don't have group homes or special schools or sheltered workshops. Rather, we advocate for the development of needed programs and the expansion of generic service systems and then monitor these programs and services, whether they are paid for by state and federal dollars or private funding sources. On a local level, the 10 member units of VARC do a variety of things, including providing parent-to-parent support. Our strength as a statewide

group is essentially political. VARC has many members who are experienced at advocating in the state legislature to ensure adequate program funding and protect the rights of mentally retarded Vermonters.

The Vermont Surrogate Parent Program is a federally mandated program designed to train volunteers to serve as advocates for handicapped children and youth who do not have parents who can represent them in the IEP (Individual Education Plan) process. These children live in foster homes or group homes or at the Brandon Training School, Vermont's only institution for mentally retarded individuals; they need well-informed people to look out for their best interests in the public schools. Where VARC is strong politically, VSPP is strong in terms of the specialized training it provides. Ironically, there is money available to ensure that surrogate parents are effective advocates in the IEP process, but none to train biological parents. In fact, the director of the Surrogate Parent Program has encouraged parents to participate in her training sessions, and a number of VSPP regional coordinators are themselves the parents of handicapped children. Since some of these parents were already VARC members, there were pre-existing links between the two groups. But the links were informal, based on individual initiative, and not systematized in any way.

The challenge of the VARC/VSPP portion of the larger telecommunications project in Vermont was to see if we could develop more fruitful--and informal--ways of exchanging information. Not that we ever expected to hold all our meetings jointly or that we weren't interested in strengthening our own intra-organizational networks. At VARC we saw the bridge as an effective way of helping isolated ARC units and isolated individuals keep in touch with developments around the state and with each other. VSPP saw in the bridge an invaluable way for regional coordinators to share information and advice. Both groups were painfully aware of the amount of money, to say nothing of time, being spent by volunteers forced to drive long distances to meetings.

Vermont is a small state, but even in July it takes anywhere from 45 minutes to three hours to get from one population center to another, and many people have to drive 15 miles to get gas or groceries. ("Population center" is awkward, but "city" would be downright misleading. Burlington, a major metropolis on the Vermont scale, has fewer than 40,000 people. The whole state has a population of approximately half a million.) As if the demography and terrain and climate weren't daunting enough, families with handicapped members often experience the isolation of being "the only ones" for miles around. Parent support groups are hard to sustain in rural circumstances.

We began by identifying a VARC parent in each of the 10 VSPP regions around the state and, in effect, matching them with VSPP regional coordinators and parent advisors. Amplified telephones were installed at a number of locations in order to make it possible for groups to gather, although some people were linked only by their regular telephones. Locating sites for amplified telephones was a challenge in itself. Churches that were generous with space didn't want their telephone lines tied up for an hour at a time during meetings. Schools typically weren't available at night.

Still, the difficulties of finding locations for the amplified telephones were insignificant compared to the difficulty of managing a meeting with 12 or 15 or 20 people scattered around the state. Before designing and locating the bridge, the telecommunications project coordinators asked that we try out the feasibility of the system and experiment with various meeting places and configurations by means of conference calls. In Vermont, in order to make a conference call you have to get a Boston operator to call each of the parties involved. That meant that our first meetings got off to painfully slow starts while a surly operator dialed number after number to hook everyone on the line. Once the operator clicked off, we'd begin the process again by taking roll. "Harriet, are you there in St. Johnsbury?" "This is Betty in St. Albans, I have Ann and Terry here with me." "Anyone down in Rutland?" This process was repeated at the end of each call, when we did a Vermont version of the end of the Waltons--"Goodbye Denis, goodbye Karen, goodbye Emily. . . ."

Nonetheless we were determined to find some way of getting over and around the ritual beginnings and endings and have substantive discussions. We needed to find ways of organizing our meetings, keeping conversations on track, and giving everyone a chance to speak. It quickly becamo apparent how dependent we all were on visual cues. When you're sitting in a room together, it is easy to see who wants to talk, who is frowning or shifting in his chair, who has picked up her purse and is anxious to get back on the road. When you're linked together only by phone, you have to concentrate much harder to know what's going on. We all found that our attention spans were limited; an hour, an hour and 15 minutes at most, and we were ready to hang up.

We also found that in order to make sure that everyone had a chance to participate, we had to resort to old-fashioned pedagogical methods. The moderator had to copy down the names of those present at the beginning and then go through that list, calling on people. "Do you have anything you'd like to add at this point, Marge?" "What about the group up in St. Albans?" It was hard to keep reminding ourselves to say who we were before starting to speak, instead of just blurting something out.

On one level, all this structure was inhibiting. The kind of spontaneous sharing of thoughts that can take place face to face tended not to happen. On another level, however, it was actually enabling. More people were able to take part; no one, except perhaps the moderator, could dominate. And it was startlingly efficient. The strain of relying solely on what our ears told us, the need to follow a fairly rigid format, and the lingering sense that long distance calls are a sinful extravagance all tended to keep the discussion focused.

In addition, we found the process tended to shape our agendas and reinforce a certain businesslike tone. Initially it was easiest to have meetings that were teaching sessions, with one person doing most of the talking and the others chiming in with questions. Sometimes one of us did the teaching; other times we had an invited speaker--the head of Vocational Rehabilitation Services, for example, or of the Division of Special Education.

Gradually, as we got more accustomed to working together by telephone, we were able to do some problem solving, taking turns describing particular situations and thinking out loud together about possible solutions. The opportunity to ask an experienced group such as this one for help in handling a recalcitrant superintendent, an apprehensive teacher who didn't feel equipped to have a handicapped child in her class, or a local school board that still hadn't grasped the implications of PL 94-142 was clearly valuable.

Yet while teleconferencing was an excellent way to communicate some things, it was not very useful for others. The very factors that made our telephone meetings so efficient made it difficult to move on to more subjective agendas. The businesslike format plus the lack of visual cues made it hard to share feelings. It was a pleasure to take part in meetings in which the first 15 or 20 minutes were not wasted in small talk, but it is precisely the "Have you heard?" and "I just saw. . . ." and "Do you think it will ever be spring?" at the beginning of a meeting that make it possible to bring up more subjective and sensitive issues later on. Typically, at the end of our sessions, several individuals would arrange to call each other or get together for a more personal discussion. Some of the support and sense of freedom that come from being in a room with like-minded people couldn't be captured long distance.

One adjustment we have made out of a sense of what's missing is to have fewer large, formal meetings and many more smaller ones. In recent months, the installation of the bridge has reinforced this tendency. As long as we had to use a conference operator in Boston, setting up a meeting was enough of an ordeal that it seemed justifiable

only if there was a big group and a carefully structured agenda. Now that the bridge is in place, all we have to do is check with the administrator of the telecommunications project, who makes sure that the necessary number of "ports" are available, and we can set up a telephone meeting in minutes.

We also have discovered how important it is to have the right mix of face-to-face meetings and teleconferences. Interestingly, one of the outcomes of the VARC/VSPP telephone experiences has been the development of a proposal to sponsor workshops on advocacy techniques and effective coalition building. These workshops will be developed not only by people drawn from VARC and VSPP, but from the entire Vermont Coalition of the Handicapped, a loosely knit group with 27 member organizations. The project was discussed and defined, and the grant proposal written and edited almost entirely by means of teleconference. It reflects our sense that you can accomplish a great deal on the telephone, but you also need face-to-face encounters and regional coalitions in order to be truly effective.

In scheduling the first VARC board meetings this fall, we decided it was important to give the new board members a chance to meet each other, at least once, so they could put faces with voices during subsequent teleconferences. Our assumption in making this decision, we realized later, was that the "normal" way to do business is by telephone using the bridge and that face-to-face meetings need special justification.

The second year of the telecommunications project in Vermont will be a period of transition. Those of us who are members of advocacy organizations will continue to have subsidized time for experimenting with the system, while defining and implementing strategies for long-term funding, whether by selling time on the bridge to state and/or commercial users or arranging for grant support. The one thing that is clear at this point is that there is little nostalgia for the good old days when the hours we spent in meetings were matched many times over by hours behind the wheel, peering through the small patch of clear windshield directly above our defrosters.

Gail T.P. Wickes is the executive director of the Vermont Association for Retarded Citizens. She has an A.B. and Ph.D. from Harvard University and taught there as an Assistant Professor of History and Literature. She served as President of Bennington College for four years and, since moving to Burlington, has taught at both the University of Vermont and Trinity College. Author of a number of scholarly articles as well as four books, she has written on topics ranging from mental healing to women's history to higher education today.

ONLINE WITH THE VERMONT SURROGATE PARENT PROGRAM

by
Karen Thomas

When the Vermont Surrogate Parent Program (VSPP) joined the telecommunications demonstration project, we had little knowledge of either telecommunications or the parameters of the demonstration. We left knowing more about telecommunications via telephone and realizing that we had helped to define the boundaries of the project. It was an exciting, frustrating, eye-opening, and most beneficial experience.

By now you are probably asking yourself, "What is a surrogate parent?" A few words of explanation: The Education for All Handicapped Children Act (Public Law 94-142) mandates parental participation in the entire educational process. Unfortunately, when educational decisions are being made, some children have no one to represent their interests. The law has provided for a "procedure to protect the rights of the child whenever the parents or guardians of the child are not known, unavailable, or the child is a ward of the state, including the assignment of an individual (who shall not be an employee of the state educational agency, local education agency, or intermediate educational unit involved in the education or care of the child) to act as a surrogate for the parents or guardian."

In October 1978, the state of Vermont began a systematic effort to provide trained surrogate parents for eligible children. At that time, there was no established process for training qualified surrogate parents. Initially, I was hired under a grant from the Northeast Regional Resource Center to the Vermont Association for Retarded Citizens (VARC) to design a training program and materials for surrogate parents in Vermont. The first group of surrogate parents were trained and appointed for 13 children in the state school for the developmentally disabled, the Brandon Training School.

In an effort to design a systematic process that would expand this initial experience to serve all eligible children, the Division of Special Education made a financial commitment to support the Vermont Surrogate Parent Program. The VSPP was officially established in November of 1978. As project director, I began to identify eligible children, recruit surrogate parent candidates, train surrogate parents, and provide them with support and monitoring services.

Eligible handicapped children live in institutions, group homes, and foster homes throughout the state. Because Vermont is largely rural, a system needed to be designed to provide surrogate parents with rapid access to assistance--without requiring extensive travel. In April 1979, a regional network was established to enable simultaneous activities to occur throughout Vermont. Nine regional teams were created, each composed of: (1) a regional coordinator--an independent, part-time consultant responsible for recruiting, training, supporting, and monitoring surrogate parents; (2) a consumer--a parent of a handicapped child responsible for contributing to the training and support of surrogate parents; and (3) a school district representative--usually a special education coordinator or teacher responsible for helping to train and support surrogate parents.

The first state conference for regional team personnel, held in August 1979, provided an opportunity for all regional team personnel to come together in one place. One of the outcomes of that conference was the realization that all regional team personnel wanted to meet more often. Because of the distances involved and because of limited funding, regular meetings of the VSPP seemed impossible.

Within four months, a possible solution to the problem appeared. Because of our close relationship with the Vermont Association for Retarded Citizens, we have always shared resources and information. One day the executive secretary for the VARC mentioned to me that a new telecommunications project was operating out of the Center for Developmental Disabilities at the University of Vermont in Burlington. The timing was perfect: the project staff was just seeking out likely organizations to try out telecommunications equipment. So the VARC and the VSPP got together and presented a proposal for a cooperative telecommunications network among parents and surrogate parent personnel throughout the state. At the time, neither of us knew what we were getting into.

The main goal of our proposed network was to identify parents of developmentally disabled people who lived in regions bordering on or the same as those of the VSPP's regional coordinators. Since many of the regional coordinators were parents of developmentally disabled children, and since these people had friends, and since the VSPP had been training parents as well as surrogate parents of developmentally disabled people, this task was not too difficult. One of the positive aspects of this experience was that the telecommunications project staff was open and willing to experiment, and the VSPP was at a stage of evolution where communication between regional coordinators and among parents of the developmentally disabled was crucial. We have all evolved together.

Once we had located parents who met the eligibility criteria and had gotten a go-ahead from the telecommunications project, the next step was to contact the prospective participants. At that time, we had very little information other than that they would probably be asked to open their homes to the telephone company for installation of amplified telephone equipment and to other parents of developmentally disabled individuals who would be listening in on the conferences.

Vermonters are not quick to embrace "new fangled" ideas. When we spoke to them about the technology, their reactions were usually a combination of disbelief and suspicion. As the project director, I have to admit that the language of bridges, Speakerphones, and shortwave radios made me a little incredulous also. I had participated in audio conference calls, and the experience had not always been good (for example, long waits to be connected, poor sound quality, and shaky agendas). Although I had a certain amount of trepidation entering into this, the directors of the telecommunications project were warm, eager and, most important, knowledgeable about their area. Everybody seemed willing to suspend judgment and get busy.

Because Vermont remains such an independent state, the facilitators of this project were faced with working with several telephone companies. Some participants were on party lines, which produced even more difficulties. But we were dealing with people who were tenacious enough to make this project work. It seemed to take an inordinate amount of time to get locations for the amplified telephones, and some people participated via their own regular phones. But in January 1980, we had our first teleconference with 15 people from all over Vermont--many of whom had never met. The conference went surprisingly well.

The VSPP participated in this project in two ways. First, we had regular conferences with regional personnel from the Surrogate Parent Program. Second, regional personnel, including VARC members, participated in conferences. The nature of the conferences depended upon both the subject outlined and the composition of the group of participants. The VARC identified conference participants, organized some of the conferences, and chaired several meetings.

The conferences tended to focus on either information sharing, group problem solving, presentations by "experts" identified by the participants, or combinations of all three. The nature of the conference often depended on whether it was limited to the VSPP or open to all participants. The conferences were always followed up by

a summary of the proceedings, which was distributed to users who were not present at the conference.

Our first session included both VARC and VSPP people. It really focused on the basic question of, "Why are we doing this and what is it all about?" In addition, we took suggestions as to the topic of the next conference--a procedure we followed throughout this project.

Before I get into the exact nature of these communications, I should probably mention that we did not start out as experts. Few of us had participated in conference calls, and none of us had ever chaired them on a regular basis. The verbal guidelines we received from project staff, while helpful, were informal and fairly general. There were no hot tips summarizing experience to date. We did learn quickly how critical the chairperson's skills were in directing the conference and eliciting contributions from all participants. Some conferences we blundered our way through, others went very well. This experience taught us the art of conducting a good telecommunications conference.

There were also some problems with the technology. Although I had anticipated bad connections, those were relatively few. However, we did discover that a two-year-old at one amplified telephone connection could successfully interfere with everybody else's ability to hear. I don't believe anyone ever learned how to effectively use the quiet button.* Another minor but continuing irritation was the conference call operators' inability to correctly pronounce the names of the participants. One lady in particular, Mrs. Bombardier, eventually became resigned to being called Miss Bombadeer. We decided that it must be a job criteron for conference call operators to mispronounce names.

The first couple of conferences focused on problem solving. Participants' questions ranged from the issues of educational programs to residential placements. Although it was tedious to query everyone for potential or real solutions, this process brought helpful results. Someone in the southern region of the state might ask a question such as, "What can I do if the school tells me there is no money for the services

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*Editor's note: The quiet or privacy switch on an amplified telephone allows individuals in one location to speak privately without interrupting or overtaking the speaker on the line.

my child needs?" More often than not, a person from a different region of the state would have an answer to that question based on his or her personal experience. Everyone could benefit from a particular individual's knowledge. In addition, the isolation that a parent of a handicapped child can feel in a rural state like Vermont lessened dramatically among the participants. To be perfectly honest, though, one parent mentioned that regular conference calls seemed to increase her sense of isolation--she found out what she had been missing.

Conference calls were held on a monthly basis, and information was presented about everything from training opportunities in various regions to the need for legislative advocacy. As a result, many participants took advantage of opportunities that they might not have known about otherwise, and local representatives got more phone calls about legislation concerning developmentally disabled people. A couple of participants were relatives of state representatives; their increased awareness would undoubtedly encourage both the flow of information and effective advocacy in the state house and senate.

The VSPP regional coordinators were able to discuss specific cases and possible solutions, thus increasing the effectiveness of the entire program. In a couple of instances, three or four regional coordinators conferenced independently over a problematic case. In addition, the Surrogate Parent Program serves a transient population. When a child in a foster home placement leaves one region to go to another, the regional coordinator who is participating in the telecommunications project might well be the first person in that region to be alerted to that child's presence. The benefits are obvious.

Presentations by experts in the field had some positive and some negligible effects. A lot depended upon the presenters. In one conference, three professionals--from the fields of special education, vocational rehabilitation, and vocational education--presented simultaneously for the usual one and one-half hours. Unfortunately, that left little time or energy for participant questions. Regional coordinators in the VSPP were able to make good use of a representative from the social and rehabilitation services system. That particular conference lasted almost two hours. One of the best presentations was made by a consultant with the Division of Special Education. All VARC/VSPP participants were able to fire good, hard questions to this representative. She, in turn, provided effective, timely suggestions to all.

Business usually slacks off in the summer months; Vermont has a very short growing season, and everyone is anxious to make the best use of this time. Hence, participation in conference calls decreased dramatically. A switch in conference technology contributed to this situation. The project directors decided to provide the telecommunications network with a "bridge," which would alleviate the need to go through the conference operator. The availability of this new technology was not systematically publicized, and, in fact, the location of the bridge changed at least once. When participants wanted to resume conferencing in the fall, several became confused as to the means of being included. Some, unaware of the purpose of the number for the bridge, still waited to be called by the conference operator. Other participants had been initiating conference calls among themselves since the beginning of the summer. These participants seemed more ready to incorporate the conference technology into their daily routines.

Based on our experience with the project, I would like to recommend provisions to meet two critical needs. First, an effective conference requires an effective chairperson. It would be most helpful for the chairperson to have a resource manual that outlines ways to handle the various problems that arise--from rotten connections to silent participants to people who ramble on for too long. The second need is related to the first: a clearly specified agenda should be given to all participants prior to the teleconference. That agenda could be mailed in advance or, if the conference is held on short notice, could be stated verbally at the beginning of the actual conference. One of the tips to the chairperson should be to make provisions for the agenda.

A final word to any health professional considering use of such a system: the issue of confidentiality will arise. If individual cases are to be discussed, there should be a method of assuring the confidentiality of any information shared. Limited access to the conference as well as restrictions on taping conversations would assist in assuring adequate privacy.

In conclusion, I think that both the system and our use of it have established a real promise. Both were far from polished, finished products. Just as the project was winding down, the directors secured a more practical technology. Just as the project was winding down, people began to feel familiar enough with the process to comfortably initiate their own conferences. We are, however, involved in a telecommunications transition project that has the potential to realize some of the early promise.

In this transition year, the VSPP has scheduled regular telecommunications conferences as part of its operating procedure. To date, the liaison established with VARC members has not been resumed. This would seem to indicate that an established structure or formalized relationship lends itself to this technology more readily than any group of related but relatively unorganized individuals. We hope that the transition committee will establish operating procedures and policies that will allow the VSPP to participate.

At the end of the last conference in September, one of the regional coordinators commented, "I think we're getting better at this thing." At that conference, we were able to share information circulars at a state level, do some problem solving on a regional basis, and plan the agenda for a meeting. Indeed, we have gotten better at this thing.

Karen Thomas is the project director for the Vermont Surrogate Parent Program. Before coming to Vermont, she worked extensively with special education training and resource centers in California and Massachusetts. In her present position, she administrates a program that provides training and support to parents of handicapped children as well as to surrogate parents.

TEAM PLANNING BY TELECONFERENCE: DEVELOPING A COMPREHENSIVE PROGRAM FOR A SEVERELY HANDICAPPED ADULT

by

Edward Sbardellati

During the past decade, the preferred locus of service delivery for severely handicapped individuals has shifted from institutional to community-based settings. However, financial, organizational, and attitudinal barriers have kept a large number of severely handicapped people in institutions--isolated from their communities. Since these self-contained residential facilities operate under strict budgetary constraints, they do not typically have the resources to provide effective on-site consultation and technical assistance. They must therefore arrange for local universities and other outside agencies to provide these services. The Center for Developmental Disabilities (CDD) of the University of Vermont in Burlington is one agency that provides consultation, training, and technical assistance to the professional and paraprofessional staff at the Brandon Training School--the only state residential facility for severely handicapped people in Vermont.

Many of Vermont's demographic, economic, and geographic characteristics aggravate the difficulties of delivering effective ongoing supportive services to the Brandon Training School. Although Vermont is small, its mountainous terrain, long hard winters, and lack of good roads make transportation a major problem. (It is a 110-mile round trip from the University of Vermont to the Brandon Training School over U.S. Route 7--a very scenic, very treacherous two-lane road.) In addition, the state is very poor--falling well below the national average in personal income and well above the national average in unemployment. Vermont has high incentive to develop innovative and cost-effective ways of meeting its educational and human service delivery needs.

The use of telecommunications technology I am about to describe was an outgrowth of normal consultation/technical assistance the Center for Developmental Disabilities provides to the Brandon Training School. None of the participants in this project received special training in the use of telecommunications technology, and no one was prompted or pressured to use telecommunications at any time during the project.

A CASE STUDY

This story begins in March 1980. Serving as the CDD/UAFS special educator, I had just conducted a one-day in-service workshop for all Brandon educational staff on procedures to increase the generalization and transfer of skills with severely handicapped learners. Following the workshop, Brandon's assistant principal asked me to assist in developing an individualized program for Billy, a highly aggressive resident of the institution.

Billy is a 20-year-old, profoundly deaf young man who has been called "the worst behavior problem at Brandon Training School." Institutionalized nearly all his life, Billy had been rejected by several schools for the deaf because of his high rate of disruptive behavior. Billy had been reported to frequently break objects, such as television sets, windows, and swings, tip over furniture, and even attack staff and other residents. Drug therapy did not successfully reduce Billy's rate of disruptive behavior. At the time of this study, Billy was not receiving any medication.

In a meeting at the Brandon Training School, the special educator, assistant principal, and Billy's teacher outlined Billy's present program, identified potential problems, and planned future consultation activities. As the special educator, I was to observe Billy's daily program in order to make specific recommendations. Approximately one week later, I spent a full day observing Billy and meeting with Brandon staff. Over the next two weeks, the initial three-person planning team met at Brandon on two occasions and designed an individualized program geared to decrease Billy's rate of disruptive behavior.

The team's instructional philosophy was based upon the belief that actively engaging Billy in enjoyable but functional activities as often as possible would help him learn how to behave in his school, dormitory, and community environments. The approach was, in essence, to focus on the time Billy was appropriate, rather than to spend energy developing aversive procedures designed to punish and thereby emphasize Billy's inappropriate behavior. Although consistent with a behavioral-humanistic educational model, this approach was certainly not in line with the current literature's recommendations for control of severe behavior problems.

Billy had been living in an inconsistent world, where his inappropriate behaviors were alternately rewarded and punished and where appropriate behaviors were usually ignored. Therefore, a major aspect of Billy's program was to teach him response-

contingency relationships. The staff created a daily activities board to help Billy learn that appropriate behavior would lead to certain enjoyable activities. Daily work and play activities were pictorially represented on a large portable bulletin board. Activities were sequenced such that low-preference tasks (such as cleaning) or activities that Billy spent an inordinate amount of time to complete (like washing his hands) were followed by a high-preference activity (such as playing on the swings or going to town). To help Billy understand this connection, three tokens were placed under the picture of the low-preference activity. When the low-preference activity was completed, Billy would place the three token under the high-preference activity. He was then allowed to participate in that activity. This procedure allowed Billy to achieve some consistency in his daily activities and effectively reduced the amount of time he spent in preseverative behavior (Billy was reported to spend up to 45 minutes washing his hands and face).

Of particular interest here is the process we used to refine and expand Billy's program. It had taken me three full days at Brandon to outline Billy's initial school program. Having a special educator's involvement on an ongoing basis was essential if the program was going to be successful enough to allow Billy eventually to join a community residential facility. However, other responsibilities prevented me from spending the necessary time at Brandon. Fortunately, there were alternatives to spending time at Brandon.

Several staff members from Alternate Media Center at New York University had been working in Vermont for the past eight months to establish telecommunications systems to benefit developmentally disabled individuals. Since their project was based at the Center for Developmental Disabilities, it was easy for me to arrange a meeting with the telecommunications project site manager. It was just as easy to make arrangements to access the telecommunications technology.

The planning team scheduled a one-hour block of time to conduct our first audio conference. At the appointed hour, we called the audio conference "bridge": I dialed a local number and Brandon staff called from across the state. Although Brandon staff had to call long distance, only one long distance line was necessary because they had in-house telephone conference capabilities. Brandon staff used their normal telephone receivers during all audio conferences. I was frequently able to use an amplified telephone. Within one week, the planning team--the assistant principal and teacher at Brandon and I at the CDD--were communicating via audio conference without having to leave our offices.

The initial audio conferences were concerned with refining Billy's program and outlining procedures to integrate the program into that part of the day when Billy was not in school. Another individual was soon added to the planning team: a staff psychologist of the Behavioral Resources Unit, the agency responsible for writing Brandon's individualized behavior control programs. After one face-to-face meeting with the entire team, the new member was easily integrated into our frequent audio conferences.

Up to this point, descriptions of Billy's performance were communicated to me during visits to Brandon or via audio teleconferences. It soon became obvious to all concerned that a regular but less "meeting-oriented" method of sharing this information would have to be developed. The telecommunications site manager suggested implementing a computerized message exchange system. The Center for Developmental Disabilities' computer technician made one trip to Brandon to teach Billy's tutor and his psychologist how to log data and messages into the home computer located at Brandon. This session took approximately two hours. Brandon staff were instructed to log Billy's performance data into the computer on a daily basis. This allowed the special educator to keep abreast of Billy's daily progress without any verbal interaction with Brandon staff.

By this time, the planning team felt that Billy had shown sufficient progress to attempt a transfer of procedures to the dormitory setting. The team leader in charge of Billy's dormitory agreed to participate in this program and was added to the audio conference network. A graduate student in the Intensive Special Education Program at the University of Vermont who expressed interest in the program was then recruited to work with Billy in his dormitory for 10 consecutive afternoons and evenings. She was trained by members of the planning team to consistently carry out the classroom instructional procedures. At this point, six individuals were involved in the telecommunications network on an ongoing basis: the special educator, assistant principal, teacher, psychologist, dormitory team leader, and graduate student.

Within six weeks, the planning team had designed and evaluated a comprehensive program to decrease Billy's frequency of disruptive behavior by teaching him to engage in a variety of functional activities. With the addition of the student volunteer, we were able to show that Billy could benefit from a consistent, 16-hour-a-day program. These initial findings, coupled with the enthusiasm of those involved in the program, have been significant enough for the Brandon Training School to allocate over $11,000 to extend this program; a team will continue to work in the dormitory setting with Billy and a small group of six to eight other residents until June 30, 1981.

SOME CONCLUSIONS

The planning team's experience has led us to certain conclusions about how to efficiently utilize telecommunications technologies to plan, modify, and evaluate an individualized program for handicapped learners.

We did not use audio conferencing until after relationships between participants had been built. It is undoubtedly possible to communicate with people on the telephone in a professional capacity without having already established a relationship. However, we felt that the participants' having met face to face and developed at least a minimum level of trust in each other contributed to the high degree of information and opinion sharing. We believe that audio conferencing should be used after the participants have held an initial person-to-person meeting and have reached some agreements as to the philosophy and scope of the project.

Audio conferencing is not equally appropriate for all kinds of communication. For example, an individual involved in the network may want to withhold some information from other members of the network for political or personal reasons. Therefore, it may be necessary to meet periodically face to face to discuss sensitive issues or to iron out individual conflicts. In these cases, it may be beneficial for one member of the network to assume the responsibility to become aware of potential conflicts between network members and to take steps to see that these conflicts do not impinge upon the effectiveness of the program.

Computer-based technologies can facilitate storage and communication of data on individual learner progress. In the field of special education, it is critical to base programmatic decisions upon objective information. Having a timely, regular means of getting that information to the person making such decisions may make the difference between success and failure of a program--especially when the behaviors being changed are dangerous to the learner or to those around him. In this application, we had only to press a few buttons on a computer terminal to access the previous day's data. There was a minimal time lag between data collection and data analysis. Consequently, there was a minimal lag between the realization of need for program modification and the recommendations for changes.

The development of Billy's total program has been a taxing but rewarding process for all involved. As this program involved significant changes in educational programming and dormitory services, communication between university staff and the various

departments at the Brandon Training School was critical to its success. Audio conferencing allowed all necessary professionals to "attend" formal meetings without leaving their offices. During these audio conferences, decisions were routinely made about instructional programming, staff utilization, resource procurement, and program evaluation. The addition of a computerized data-sharing system enhanced the communication process by transmitting learner progress data on a daily basis.

Although Billy still engages in inappropriate behavior, our data indicate that the program achieved a 64 percent reduction of Billy's frequency of aggressive and abusive incidents. Without telecommunications capabilities, this information-sharing process and the successful results it produced would have been difficult, if not impossible.

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HOME COMPUTERS LINK THE HANDICAPPED IN VERMONT

by

Lee Viets

"It has changed my whole life."

Project participant

"Students may learn at home on computers."

Burlington Free Press

"For every bachelor's degree awarded in computer science, there are 12 jobs open."

Family Weekly magazine

The isolation and alienation teenagers often feel is increased by disability. In a rural state like Vermont, it is unlikely that a young person with cerebral palsy will have a close friend, or even a schoolmate, with similar handicaps.

For the past five years, United Cerebral Palsy (UCP) of Vermont has supported an outreach project in physical and occupational therapy that provided services and consultation to young persons with cerebral palsy and their families, teachers, and community therapists. One of the recommendations in the final report of that project concerned the need for additional services for adolescents, especially young persons living in the community and attending public school. (One of the few advantages of residential or "special" schools is an opportunity to understand disability and to share both problems and solutions with peers.)

When the telecommunications project team approached UCP with the proposal of using telecommunications to enable handicapped adolescents to get in touch with each other, their ideas raised provoking questions. Could technology offer new ways to circumvent fatigue, poor coordination, impaired speech or vision or hearing, and open up new paths to learning? Could mobility-impaired persons reach out to the world via a computer network? Could the project provide a means of increasing the self-esteem of teenagers with severe physical handicaps? Were there ways in which telecommunications could explore the horizons of young persons who had been restricted in experiencing the world and understanding it?

The project team suggested that microcomputers, which could be installed in private homes, might offer exciting possibilities. Programs for games and learning were available, users could exchange messages with others over telephone lines, and the possibility of learning about computers opened up a range of vocational opportunities in a rapidly developing industry.

The next step was to more clearly describe the target population for this experiment and to select the initial participants. Since the terminals are operated with a keyboard, the capability to type was an obvious prerequisite, and prior experience with a typewriter was preferred. The most important issue was an existing support network of family and friends to encourage members of the pilot group and to protect them from developing too much dependence on the project or project staff. The final checkpoint was interest and a desire to be involved.

Following consultation with service providers in several areas of the state, UCP staff compiled a list of 17 potential project members and mailed out an initial letter describing the project. The letter was followed by a phone call or a personal visit to the family or individual, and plans were made to meet as a group.

An afternoon meeting was scheduled on September 20, 1979 to enable project staff, young people, family members, and UCP staff to meet one another and informally discuss ways in which the project could address the needs and interests of each participant. The 10 adolescents who were able to attend the meeting were all encouraged to describe their hobbies and interests, and lists were made of common interest areas. It was agreed to meet again in early October for a hands-on introduction to several different computer terminals, which offered a chance to further explore individual interest in the project, assist in the selection of the most appropriate terminal, and provide a second opportunity for other to joint the group.

The second meeting was held on October 6. The project staff brought two computer terminals for experimentation. Seven young persons with cerebral palsy had an opportunity to explore, obtain stored information, or play games with the computer. All experienced both success and frustration. Phone connections and transmissions were imperfect, but the young people played games and completed lists, and interest was high. The encounter pointed out that some changes would be necessary to make the terminals easier to use, and two members would require a keyboard shield to allow them to manipulate the sensitive keys.

In December, the site manager visited each member of the group, which then numbered six. These visits and consultations with computer experts around the country led to the selection of the Apple II microcomputer and the decision to install the terminals in all six homes for a period of two months.

Early in January, an organization of disabled adults requested that one of their members be included in the project, and their request was approved by project staff. Since this young man was more severely handicapped than the other participants, additional modifications were needed for him, including handles for the diskettes, an elevated installation for the monitor, a raised, slanted platform for the terminal, and a large dowel for depressing the keys. This member's limited speech restricted his ability to communicate over the telephone, but we were interested to learn if the computer could serve as an important adjunct to speech for him.

Although each of the members of this pilot group was affected by cerebral palsy, there were few other universal factors. They ranged in age from just 10 to almost 30; three males and four females; two using wheelchairs and one crutches; four in high school, one attending elementary school, and one a college graduate. For the youngest member, who was exposed to his father's tools and farm equipment, the computer was an exciting new machine that he was eager to explore. For the two older participants, the project represented an unexpected new opportunity to develop skills that could lead to employment and financial independence.

Another important addition to the project during this time was Jim Schumacher, an engineer from IBM, who was granted six weeks release time to coordinate the initial development of the project and introduce the users to the computers.

The basic instructional materials included a series of tasks that would lead the members to interact with the computer, to communicate with one another directly, and to leave messages on a central "bulletin board." Grouped by levels of difficulty, the tasks included games, educational and vocational uses, communications, and programming.

In April, when the computers arrived and were installed in members' homes, the focus shifted from planning to implementation. Each home was equipped with an Apple II microcomputer, disk drive, micromodem, and television set. A local orthopedic supply shop offered to design and build the adaptations necessary for the most disabled members, which significantly increased his ability to operate the terminal and manipulate the diskettes.

At first, familiar games such as Tic-Tac-Toe, Hangman, and Battleship were the most popular, but soon each participant learned to experiment with new and more difficult games, including Chess, Othello, and Stock Market. Educational and prevocational tasks were selected by users in consultation with project staff. A series of assignments was developed to encourage use of various modes of communication, use of the central bulletin board, program exchanges, personal journals, and peer-to-peer conversations.

As we began to observe the learning rate and aptitudes of each participant, we realized that the pilot group would benefit from a more extended opportunity to use the computers. The time line was lengthened from June to September and again to January. By the end of the original project year in September 1980, three members of the group had changed: one student left Vermont to begin his freshman year of college; one high school senior dropped out, overburdened by school, a part-time job, and social activities; and a friend of one participant who had been sharing his Apple was accepted into the group. We anticipate that these six will continue as members of the project through the transition year, which ends in June 1981. Those who do continue will be assisted in integrating computers into their educational or vocational plans and applying for alternate sources of funds.

In June 1980, an Advisory Committee was formed, which includes a member of the pilot group, three parents, members of the Developmental Disabilities Council and the UCP Board of Directors, and representatives of the state Divisions of Vocational Rehabilitation and Special Education. This committee will oversee the second year of the project and make recommendations to the Transition Committee, in addition to seeking sources of continuation funding. As the project year ended, the progress report indicated that:

1. Each participant was able to perform simple tasks on the computer. This requires the ability to start, run, and stop the Apple, as well as to recover the machine from random and operator errors.
2. Each participant was able to communicate with and leave messages on a remote microcomputer "Bulletin Board System" using a telephone line for link.
3. Each participant was able to communicate directly with any peer via direct hook-up of Apple computers.

4. The three adult participants had been tutored in beginning programming to the point where they could modify existing programs and were just beginning to write programs from scratch. The tutoring combined computer-assisted instruction, remote tutoring, and direct one-on-one tutoring, with the latter technique predominating.

5. Computer-to-computer link-ups over the phone had been tried using the game of Go-Moku, with tutoring and in sending a software program.

6. Tutoring has been emphasized more than originally intended, primarily in order to exploit the increased self-motivation and high interest level generated when participants interact on their own with the Apple. This plus in enthusiasm is an accomplishment worth noting.

The project clearly demonstrated the feasibility of microcomputer use by the physically disabled. Remote tutoring and use of the microcomputer as a tool to replace a typewriter have been major factors in the educational progress of two participants. Increased social interaction, both with project participants and with other computer users has had a positive effect on all participants. The amount of verbosity, the injection of high spirits, and the frequency of participation has steadily increased. Anyone immersed in the mainstream of this project has felt the increase in self-esteem and self-confidence by all participants. The increase has been very dramatic in some cases.

One participant feels that this experience has clearly changed the course of her life. Her ability and enjoyment in computer programming has led to increased belief in her own skills and hope for her future. When school reopened, she continued with advanced algebra, a course she had initially struggled with and not planned to continue.

Another individual has gone from a terse, cautious approach when interacting on the computer with others to a very effusive and active approach. He creates programs with obvious pride and now sends messages that are long, upbeat, and full of variety.

In two other cases, the ability to succeed with the microcomputer has stimulated participants to consider more active and difficult vocational goals. This drive seems to be independent of whether the computer assists them in these new goals. They have accomplished more than they thought possible.

The prospects for future uses of computers by these and other disabled persons seem limited only by our imaginations and creative use of funding sources.

Lee Viets, executive director of United Cerebral Palsy of Vermont, serves as president and lobbyist for the Vermont Coalition of the Handicapped. She is a member of the Vermont Special Education Advisory Council and vice-chairperson of the Vermont Developmental Disabilities Council. Her 16-year-old daughter was a member of the pilot group.

AUDIO CONFERENCING AND ITS IMPACT ON THE VERMONT DEVELOPMENTAL DISABILITIES COUNCIL

by

Stephen F. Chupack

On a very cold Friday in January, the end of an especially busy week, I got up early to drive to Burlington for a long-overdue meeting with the editor of the Free Press feature page. I had another important meeting back at the office in Waterbury, 27 miles away, at 1:30 that afternoon. If I skipped lunch, ignored the 55 mile-per-hour limit and slippery condition of Interstate 89, I could just barely make it. I envied the Agency of Human Services (AHS) staff who were only a few steps from the conference room reserved for our meeting.

Other busy people would soon be on their way to Waterbury. John Ambrose, a Burlington attorney and Developmental Disabilities Council chairperson, would leave his office about 12:45 p.m. Steve Rhoades, a paraplegic and consumer member of the Advisory Committee, would start out about 11:30 a.m. to make the 65-mile trip. Lee Viets, executive director of United Cerebral Palsy, would be with me for the meeting at the newspaper office. But carpooling was out; she needed to get back to her office in Hyde Park after the Waterbury meeting, a drive of 23 miles. David Watts, director of a council project, would have to cut short a meeting in Barre to make it to Waterbury on time.

Conscious of the governor's directive to all state agencies to cut travel, I did a quick estimate of what mileage reimbursement would cost the council for the meeting. Although the distances were relatively short compared to other meetings, the total would come to about 300 miles. At the approved rate of 20.5¢ per mile, this added up to just over $60. The cost per mile for Steve Rhoades's specially equipped van was about 50¢. Besides this out-of-pocket loss, Steve would use four hours driving to and from the meeting. Every other person who had to travel to the meeting would waste time as well.

Sound familiar? It probably will if you work with an organization like a DD Council. Too many hours are spent driving to meetings held at mutually inconvenient times and places in all kinds of weather. Too many precious dollars go out automobile exhaust pipes.

Actually, I didn't go to the meeting in Waterbury. Neither did John, Lee, Steve, or David. Instead we "met" with the AHS staff by using the audio conferencing system designed and implemented by the Alternate Media Center and other members of the Vermont telecommunications project.

After my meeting in Burlington at the Free Press, I had my lunch and did some additional preparation for the audio conference. Then I walked down the street to the office of the Vermont Association for Retarded Citizens where I had arranged to use a spare desk and telephone. Since I was serving as moderator for the meeting, I dialed the local number into the bridge a few minutes before 1:30. I was soon joined by Lee calling in from her office and Steve from his home phone--both avoided toll charges by using the bridge's "800" number. John and David dialed local numbers to call in from their offices. The AHS staff met in the conference room using an amplified telephone. There were no long-distance charges billed to any of the callers. We avoided the wear and tear and expense of needless travel and accomplished as much--at least in this case--as if we had all met face-to-face in Waterbury.

The charge for our 90-minute call was $45. A typical statewide meeting involving just one state employee from each of Vermont's 10 counties costs about $195 for mileage reimbursement alone. Add to this the cost of lost productivity while driving and the true cost is much higher. But cost effectiveness is not my main point.

I believe the Vermont telecommunications project has successfully demonstrated that audio conferencing is indeed an idea whose time has come. It is a simple, relatively inexpensive, practical application of technology that will, in my judgment, substantially alter the way the Vermont Developmental Disabilities Council does much of its planning and advocacy from now on. Furthermore, introduction of the system into Vermont is like dropping a pebble into the pond: this system of audio conferencing can serve as a model that other DD Councils, service providers, and advocacy organizations in other states might wish to adopt in a form that would meet their unique needs.

HOW HAS THE COUNCIL USED AUDIO CONFERENCING?

As of October 1, 1980, the Vermont DD Council was composed of 34 members. Of the 17 consumers, six were persons with developmental disabilities, and the others were parent representatives. There were also seven representatives from state government, eight providers from the private sector, and two members at large--including the chairman.

The council's primary aim is to establish a service system more sensitive to the needs of people with developmental disabilities and more capable of meeting those needs. Its methods involve planning and advocacy; it only indirectly functions as a service provider. AMC's philosophy meshed well with the council's. Project team members agreed that whatever technology was introduced should be a means of improving services to persons with developmental disabilities, to parents, advocates, and service providers. The technology should not be allowed to become the tail wagging the dog. It would be up to Vermonters, with the help of the project team, to determine the way telecommunications might be used to assist in solving problems that we identified.

During the telecommunications project, the Steering Committee, "504" Committee, and Human Rights Committee all held some meetings with their members participating remotely--either using a regular handset or an amplified telephone. Specific uses have included reviewing state plans and proposals, monitoring projects, advocating for legislation, coalition building, carrying out Region I administrative business, orienting new council members, planning for public education programs, and coordinating community living arrangements demonstration projects.

Since October of 1980, members of the council have used the bridge at least one hour a week. Tomorrow, for example, I will join a 10 o'clock conference to provide background information to a seven-member committee advising the director of one of our community living arrangement projects. At three o'clock, I will meet in an audio conference with a school nurse, staff of the State Epilepsy Association, and two parents to firm up plans for a public education program at a high school.

WHAT IMPACT HAS THE INTRODUCTION OF AUDIO CONFERENCING HAD ON THE COUNCIL?

For some members, the introduction of audio conferencing has meant a more intense involvement in council activities. This is particularly true for those who serve on the Telecommunications Transition Committee, which has met monthly since last June. Other council members' involvement has not changed noticeably one way or the other. Still other council members may feel that the telecommunications project has drained staff energy away from other important council activities.

Although my own involvement cannot be considered "typical," I am conferencing more and wasting less time driving to meetings. I am also probably involved in more meetings than I used to be because of the ease with which audio conferences can be arranged. Obviously this is a mixed blessing since almost every new conference call generates the need for certain follow-up. There is a definite danger of suffering from conference overload.

The council recently approved a state plan objective that permits me to spend up to 40 percent of my time in the design, development, and management of telecommunication activities. That approval shows recognition of the benefits of audio conferencing to council activities. It also illustrates the importance of committing staff time. Other councils need to make realistic assessments about how much time is required to successfully introduce an audio conferencing system.

As a minimum allotment state, the Vermont DD Council receives $250,000 per year. Since 65 percent of this goes to our priority service area (community living arrangements) and there is a state freeze on adding new positions, staff consists of my secretary and me. Fortunately, AHS, our administering agency, has provided excellent planning assistance. The secretary, deputy secretary, and director of planning have all been extremely supportive of the council. This extended to the AHS endorsement of the creation of a nonprofit corporation, Vermont Telecommunications, Inc., to carry out activities after AMC staff left Vermont.

The impact of the telecommunications project on council staff is impossible for me to assess objectively. I am still close to the audio conferencing, even more so now during the transition and dissemination phase than when AMC staff were responsible for day-to-day activities. The worst thing I can say about my experience is there simply were not enough hours in a day to accomplish all the things I wanted to do. The best things, in my opinion, have been the administering agency's willingness

to become more involved in working with the council, the greater visibility the council received because of the telecommunications project and the increased productivity resulting from the council's use of audio conferencing. Advocacy efforts on behalf of persons with DD have definitely increased.

WHAT HAVE WE LEARNED?

The best advice I can offer any council thinking about developing an audio conferencing capability is this: be sure of your council's basic purpose and attitude toward planning and advocacy before you do anything else. If experience is any teacher, there are many lessons in this project for other groups considering implementing an audio conferencing system. The following points should not be considered imperatives but practical recommendations.

1. **Make sure there is a need for audio conferencing**--and that the need is perceived by those who will use the system. Individuals or groups that do not perceive a need to communicate with each other will not begin to communicate just because they have access to audio conferencing.

2. **Seek out telecommunications people who share your philosophy about technology.** Make sure their actions demonstrate that they actually believe technology is a means to an end, not an end in itself. Beware of the equipment sales people until you thoroughly understand your equipment needs.

3. **Start small.** If you are starting from scratch, utilize the lease expensive, most readily available technology to test out audio conferencing. In Vermont we first used the telephone company's operator and then purchased a desk-top bridge. Inventory the major audio conferencing resources already in the state. One source for this is the account representative at your local telephone company who is responsible for GEM (government, educational, medical) customers. Whenever possible, lease the equipment before you decide to purchase it.

4. **Plan adequate staff time.** Implementing an audio conferencing system is expensive. What surprises many people is that personnel, not equipment, is the major need and cost. If initial funding comes in the form of a grant, or short-term resource, be sure to build in adequate lead time to secure sources of long-term funding.

5. **Don't make promises you can't keep.** Be conservative in describing to potential users the benefits of audio conferencing until you have documentation and experience to back up what you tell them. Reductions in travel budgets, for example, can be substantial, but the particulars depend upon the unique needs of each user.

6. **First involve people who understand the experimental nature of audio conferencing.** There are dangers in going public prematurely. Before undertaking widespread advertising, make sure you have the capacity to meet audio conferencing requests that might result from that advertising. At least initially, there are going to be some technical or other failures. It is better to have these occur among sympathetic friends than with strangers you will need as future users of the system.

7. **Emphasize group leadership skills.** Audio conferences are more similar to face-to-face meetings than they are different. This is especially true in regard to the effectiveness of the leader or convener. There is a direct relationship between a skilled, experienced, credible leader and the likelihood that participants will evaluate the conference as successful. If your group does not have ready access to an effective leader, then find a way to learn group leadership skills.

8. **Build on a strong organizational base.** In some instances access to audio conferencing may promote organizational unity and identity, but it isn't a magic solution to serious internal organizational problems. They may be manifested in teleconferencing by a large proportion of people who consistently "forget" or are "too busy" to call in. Such lack of commitment should cause the organization to assess its own cohesiveness.

9. **Be sensitive to the limitations of audio conferencing** in addressing the needs or desires of persons with handicapping conditions. People with severe hearing or speech impairments, for instance, will not be aided by audio conferencing. People with severe mobility handicaps need face-to-face contact as much as anybody else; they may object to the use of audio conferencing if it is always offered because arranging transportation is more difficult.

10. **Match the technology to the task.** Some work simply may not lend itself to audio conferencing. A final revision of bylaws, for instance, may invite endless haggling over specific wording. Audio conferencing may be quite good for getting individuals to come to a consensus on basic content, but not very good at all when it comes to expediting agreement on specific detail.

11. **Watch out for the dangers of information overload.** Easy access to audio conferencing may increase the opportunities for overcommitment for some very busy people. A way to avoid this is to have one participant in an audio conference responsible for briefly listing the follow-up tasks that individuals are responsible for as a result of the audio conference. If successive meetings consistently reveal that individuals have failed to complete a reasonable number of these tasks, the group needs to reassess why it meets so frequently, or whether its reasons for meeting are as valid as the group originally thought.

WHERE DOES THE VERMONT AUDIO CONFERENCING SYSTEM GO FROM HERE?

The audio conferencing system now faces the challenge of whether it will get off the ground before it comes to the end of the runway. AMC did its part. Now it is up to Vermont Telecommunications, Inc. Sufficient funding has been provided by the grant through June 30, 1981. Unfortunately, the state's fiscal situation is such that we cannot count on special funds being appropriated to support audio conferencing (or any other new program for that matter). So VTI must secure a sufficient number of paying customers by June to cover operating costs each month.

The Vermont bridge's capacity is mind-boggling. Even though it can accommodate only one conference at a time, there seems to be enough flexibility among users to avoid serious scheduling conflicts in the immediate future. The bridge is theoretically accessible 24 hours a day, every day. A person authorized to use the correct code can open and close it remotely from any touch-tone phone.

More realistically, the bridge's "prime time" can be calculated at a minimum of 40 hours per week (nine to five, five days a week). But prime time to an administrator in state government isn't necessarily prime time to a consumer, who might very well prefer to participate in a conference meeting during the evening or on the weekend. My judgment about this is that prime time for both providers and consumers is probably

closer to 60 or 80 hours per week, or a total of 240 to 320 hours per month, which helps to explain why VTI has set a goal of selling about 110 hours of time on the bridge per month. In early 1981, the bridge was scheduled about 30 hours per month. We estimate that this use will have to triple or quadruple in order to meet VTI's goal of self-sufficiency.

Usage and interest in audio conferencing is growing every week--not explosively, but steadily. By securing a combination of public and private users at rates reflecting ability to pay, VTI plans to reach its income objectives in 1981-82. Rates may vary from a limited number of "free hours" for DD users to $120 per hour for some segments in the private sector. Government, education, and nonprofit organizations serving persons with DD will be eligible for the most favorable rates. This range is very reasonable when compared to the cost of driving to meetings or of using ordinary operator-assisted conference calls available through the telephone company in Vermont. For example, a typical 11-location, statewide conference in Vermont using the Bell System conference operator would cost $512.00 for an hour.

I would like to pass on one final observation. The council's experience with the telecommunications project is probably the essence of what a demonstration project is all about. It offers a chance for somebody to test the water before everybody takes the big plunge. You can justify the high start-up costs and engage in some calculated risk taking on a relatively small scale if great gains are likely to result for a large number of people. I am not going to say that all councils ought to be developing an audio conferencing capability. But, at least at this point, the experience in Vermont makes me very optimistic about the future of our audio conferencing system and the benefits it will help bring to persons with developmental disabilities and to others with severely handicapping conditions.

Stephen F. Chupack is executive secretary of the Vermont Developmental Disabilities Council and executive director of Vermont Telecommunications, Inc., a corporation formed to manage and operate the telecommunications activities AMC initiated in Vermont. Prior to his work with the council, Mr. Chupack was associate director of Vermont's regional medical program, executive director for the New Hampshire Division of the American Cancer Society, and a private consultant.

APPENDIX

PUBLICATIONS

TELECOMMUNICATIONS AND SERVICE
TO THE DEVELOPMENTALLY DISABLED

VOLUME 1: NEEDS AND OPPORTUNITIES — Alternate Media Center (AMC), April 1979

Summarizes results from project needs assessment, the rationale for demonstrations, and an appraisal of telecommunications options.

VOLUME 2: APPLICATIONS POSSIBILITIES — AMC, May 1979

Discusses ideas for DD telecommunication applications gathered during needs assessment. Glossary. Bibliography.

VOLUME 3: DECISIONS ON DEMONSTRATION PROJECTS — AMC, July 1979

Presents decisions for implementation phase of project.

NATIONAL NETWORKING AMONG UAPs:
A PILOT TEST OF ELECTRONIC MAIL — Institute for the Future (IFTF), November 1979

Summarizes results of pilot test of computer-based message system conducted by the American Assocation of University Affiliated Programs

A MANUAL FOR UAF ON TYME MESSAGE SYSTEM USERS — IFTF, November 1979

A specially prepared user's guide for UAP electronic message system users.

NATIONAL NETWORKING AMONG UAPs:
A TELECOMMUNICATIONS DEMONSTRATION — IFTF, January 1980

Outlines plan for UAP national networking demonstration.

MAKING TELECOMMUNICATIONS WORK FOR THE DEVELOPMENTALLY DISABLED: A FIRST REPORT ON THE VERMONT DEMONSTRATIONS — AMC, January 1980

Reviews specific applications under way or planned for Vermont.

CHOOSING AN ELECTRONIC MESSAGE SYSTEM: A GUIDE FOR THE HUMAN SERVICES

IFTF
September 1980

An introduction to strengths and weaknesses of electronic message systems.

ESTABLISHING A TELEPHONE CONFERENCING SYSTEM: THE DYNAMICS OF DOING IT

Eileen Connell
September 1980

Summarizes most important factors in establishing a telephone conferencing system.

ELECTRONIC MAIL AMONG UNIVERSITY TRAINING CENTERS: A DEMONSTRATION IN NATIONAL NETWORK BUILDING

IFTF
November 1980

Final report of the national networking demonstration.

1981 AUDIO CONFERENCING HANDBOOK

Paul Rowan
January1981

A practical guide for implementing an audio conferencing system.

USER PERSPECTIVES: VERMONTERS TALK ABOUT THE TELECOMMUNICATION DEMONSTRATION

Stephen Chupack
Edward Sbardellati
Karen Thomas
Lee Viets
Gail Wickes
July 1981

Users describe their telecommunication experience in Vermont and the lessons they learned.

YOU CAN SEE THE RESULTS BUT WHAT WENT INTO THE MAKING?

Red Burns
July 1981

An end-of-project review of the Alternate Media Center's approach toward the telecommunication demonstrations in Vermont.

THE EFFECT OF CURRENT ECONOMIC PRESSURES ON THE SCOPE FOR NEW TELECOMMUNICATION SERVICES IN THE FIELD OF DEVELOPMENTAL DISABILITIES

Martin C. J. Elton
July 1981

An assessment of fiscal belt-tightening effects on opportunities for telecommunication services in DD.

NATIONAL NETWORKING: A CASE STUDY

Michael Greelis
Seldon B. Todd, Jr.
July 1981

The concentrated effort to stabilize the operation of the UAP network for electronic mail, add new users from other sections of the DD community, and extend the use of teleconferencing for training and as an aid for direct services, is described along with guidelines for successful telecommunications applications in health-related agencies and services.

NETWORKING MICROCOMPUTERS FOR VOCATIONAL, EDUCATIONAL, AND SOCIAL DEVELOPMENT OF THE DEVELOPMENTALLY DISABLED

James Schumacher
Fred Abraham
Gisela Wilson
July 1981

A description of the personal computer application and its impact.

BUILDING A NEW PARTNERSHIP: MICROCOMPUTERS AND THE HANDICAPPED

Pat Quarles
Red Burns
July 1981

How the personal computer application was designed and organized.

TELECOMMUNICATIONS AND DEVELOPMENTALLY DISABLED PEOPLE: EVALUATIONS OF AUDIO CONFERENCING, PERSONAL COMPUTERS, COMPUTER CONFERENCING, AND ELECTRONIC MAIL

Robert Johansen
Barbara McNeal
Michael J. Nyhan
July 1981

Final report of project.

The above papers are available from:

Developmental Disabilities Project
Institute for the Future
2740 Sand Hill Road
Menlo Park, California 94025
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